

Validation of a Scarab Grub Sampling Plan for Home Lawns

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Abstract A method of sampling lawns for deciding on the need for controlling European chafer larvae was previously developed. When larvae are abundant enough to cause damage to turf, they are so usually only in portions (patches) of properties whereas average density over an entire site is often less than a damage threshold of 5 - 10 grubs per ft². To account for this, an empirical relationship between the size of the largest patch of European chafer larvae at a site and site-wide density was used in the development of the decision guide. The decision guide also makes use of a risk rating system wherein properties with large amounts of shade and low proportion of Kentucky blue grass are not sampled and are classified as not requiring treatment. The pattern of patch size in relation to average density was found to be quite robust and can therefore serve as a basis for the protocol for deciding on the need for control. The risk rating system was also found to be robust. Patterns of grub abundance were found to be correlated in time; however, not so much as to obviate the need for sampling. The European chafer decision guide can be depended on to provide reliable decisions on the need for scarab grub control in home lawns. Use of the decision protocol should reduce the need for insecticide applications 50-80% when compared with prophylactic treatments.

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